NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(Pursuant to NAC 445A.236)

Permittee Name: United States Air Force (USAF) 99th CES/CEV
4349 Duffer Drive, Suite 1601
Nellis AFB, NV 89191-7007

Permit Number: NEV95014

Location: Cedar Pass - Nevada Test & Training Range (Nye County)
Wastewater Treatment Facility (WWTF) - 44 mi E of Goldfield
Latitude: 37° 42′ 30″ N, Longitude: 116° 27′ 01″ W
Township 3S, Range 49E, Section 1

Wellhead Protection Area: The Cedar Pass WWTF is neither located within a Drinking Water Protection Area nor a wellhead capture zone for any public supply well. There are no wells located within a one-mile radius of the WWTF.

General: The existing WWTF consists of two double-lined partial mix treatment ponds (#1-2) equipped with leak detection sumps. Zero-discharge of effluent occurs by evaporation of the treated effluent in three double-lined evaporation ponds (#3-5). Discharge permit #NEV95014 expired at midnight, 3/18/07. A modification/renewal application, received 9/20/06, requested upgrade of the WWTF with construction of a 0.03 MGD (30,000 GPD) MARWOOD™ activated sludge package plant. The package plant will have an anoxic basin for denitrification, but disinfection is not required as there will be no reuse at this site. Upgrade plans were approved by NDEP on 1/15/08. The USAF has commenced construction of the package plant and estimates its startup by 5/31/09. Cedar Pass wastewater consists of sanitary (domestic) and non-domestic flows. The smaller, non-domestic wastewater flow stream is received from two sand-oil interceptors, which pre-treat non-domestic flow from the vehicle maintenance facility (e.g., garage floor drains). Domestic grease interception is furnished at the culinary facility. When the package plant is operational, the liners in treatment pond #1 and evaporation basins #4-5 will be removed and converted into three rapid infiltration basins (RIBs). Treatment pond #2 and evaporation basin #3, plus the leftover aerators from pond #1, will be kept as two remaining treatment ponds for either emergency influent storage or standby treatment when the package plant is unavailable. If pond effluent is discharged into the groundwater, secondary treatment standards for a pond system are required, as discussed further. Emergency influent storage in the ponds without discharge does not require effluent limitations. Currently, a Grade IV certified operator maintains the ponds and will also operate the package plant, which satisfies NAC 445A.289 requiring a Grade III certification to operate an activated sludge treatment plant.

Flow: Permitted capacity of the existing ponds is 0.018 / 0.023 MGD. Average wastewater flow at Cedar Pass is 0.009 MGD (50% of pond capacity). The approved capacity of the new package plant is 0.03 / 0.03 MGD (i.e., no peaking factor). The new requested flow limit of 0.03 MGD represents 30% of the rated package plant capacity.

Receiving Water Characteristics: The State Engineer's Well Log Database indicates no well log data submitted for all 36 sections within Township 3S, Range 49E. The application indicates that the supply well for Cedar Pass is located in Township 3S, Range 50E, Sections 5, which would be sited approximately 1½ to 2 miles east of the WWTF. No well log for this location is published in the State Engineer's database. Static water level on the application is indicated as 800 ft bgs with a southwesterly flow gradient. Based on the groundwater depth and effluent quality with normal mode (i.e., tertiary-treated, denitrified), effluent disposal is not expected to impact groundwater quality at this location. Thus, no groundwater monitoring wells are required.

DMR Analysis (for pond treatment last five years):

- *Flow (influent):* Averaged 0.009 MGD (9,000 GPD).
- *CBOD (influent):* Averaged 333 mg/l. This is considered moderately high-strength domestic wastewater (WW) and may reflect usage of low-flow plumbing fixtures.
- *CBOD (effluent):* The existing ponds were zero-discharge, and effluent was sampled in the evaporation basins where algae growth and concentration (evaporation) occurred. The average CBOD level was 138 mg/l.
- *TSS (influent):* Averaged 309 mg/l (moderately high strength domestic WW).
- *TSS (effluent):* Averaged 239 mg/l, which indicates evaporation and algae growth.
- *TPH (influent):* Averaged 8.9 mg/l indicating oil and grease (hydrocarbon) input from the vehicle maintenance facility.
- *TPH (effluent):* Averaged 1.1 mg/l indicating some biological uptake in the treatment ponds.
- *pH (effluent):* Averaged 9.6 mg/l, which indicates algae growth in the evaporation ponds from carbon dioxide (CO_2) uptake.

Rationale for Permit Requirements (Quarterly Sampling Basis):

If discharge to the groundwater occurs with the remaining two treatment ponds, the effluent is to meet secondary treatment standards for ponds as listed below in Table 1. Upon startup of the MARWOOD™ package plant, the effluent will be discharged into the RIBs requiring tertiary standards (denitrification) as listed below in Table 2. The TPH standard for groundwater discharge (pond or package plant) is 1.0 mg/l.

Table 1: Lagoons (Emergency or Standby Treatment w / RIB Discharge):

- *Flow:* 0.018 / 0.023 MGD
- *CBOD:* 45 mg/l
- *TSS:* 90 mg/l
- *TPH:* 1 mg/l
- *pH:* 6 to 9 SU

Table 2: Package Plant (Normal Treatment Mode w / RIB Discharge):

- *Flow:* 0.03 MGD
- *$BOD_{5:}$* 30 / 45 mg/l
- *TSS:* 30 / 45 mg/l
- *TN:* 10 mg/l
- *TPH:* 1 mg/l
- *pH:* 6 to 9 SU

Proposed Effluent Limitations and Special Conditions:

Table 1: Pond Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.018	0.023	Continuous	Flow Meter
CBOD, mg/L (Influent)	Monitor & Report (M&R)		Quarterly	Discrete
CBOD, mg/L (Effluent)	45		Quarterly	Discrete
TSS, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Effluent)	90		Quarterly	Discrete
Total Petroleum Hydrocarbons, mg/L (EPA Modified 8015) (Influent)	Monitor & Report		Quarterly	Discrete
Total Petroleum Hydrocarbons, mg/L (EPA Modified 8015) (Effluent)	1.0		Quarterly	Discrete
pH, SU (Effluent)	6.0 to 9.0		Quarterly	Discrete
Observation Wells (leak detection system), each pond	Monitor & Report (volume of collected leakage)		Quarterly	Field Measurement

1. Effluent limitations in Table 1 apply when discharge occurs into an RIB basin. When the ponds have discharged no effluent into an RIB in the quarter, indicate "No Discharge from Ponds" on DMR Report.
2. Observation wells for each of the double-lined ponds shall be monitored for evidence of leakage of the upper (primary) liner. Report any evidence of leakage and investigate for the cause and leakage rate. A leakage rate in excess of 50 gallons per day per acre shall be cause for repair or replacement of the liner.

Table 2: Package Plant Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.03		Continuous	Flow Meter
BOD_5, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
BOD_5, mg/L (Effluent)	30	45	Quarterly	Discrete
TSS, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Effluent)	30	45	Quarterly	Discrete
Total Nitrogen (Effluent), mg/l	10		Quarterly	Discrete
Total Petroleum Hydrocarbons, mg/L (EPA Modified 8015) (Influent)	Monitor & Report		Quarterly	Discrete
Total Petroleum Hydrocarbons, mg/L (EPA Modified 8015) (Effluent)	1.0		Quarterly	Discrete
pH, Std. Units (Effluent)	6.0 to 9.0		Quarterly	Discrete

1. Effluent limitations in Table 2 apply when the package plant is operational. When the package plant is under construction and/or not operational in a quarter, indicate "No Discharge from Package Plant" on DMR Report.

Schedule of Compliance: The Permittee shall submit the following item to the Division for review and approval **(all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control)**:

- The Permittee shall notify NDEP in writing no more than fourteen (14) calendar days following package plant startup.

- Within thirty (30) days of the startup of the package plant, the Permittee shall submit a copy of the engineer's Construction Quality Assurance (CQA) letter indicating that the treatment facility was installed in accordance with the approved design plans. The CQA letter shall be wet stamped and signed by a Nevada Professional Engineer (P.E.).

- Within thirty (30) days of the startup of the package plant, the Permittee shall submit a copy of the as-built design plans wet stamped and signed by a Nevada Professional Engineer (P.E.).

- Within ninety (90) days of the startup of the package plant, the Permittee shall submit an updated copy of an Operations & Maintenance (O&M) Manual for the pond and package plant wastewater treatment facilities, prepared in accordance with the Division's WTS-2 guidance: *Minimum Information Required for an Operations and Maintenance Manual*. This document shall be wet stamped and signed by a Nevada Professional Engineer (P.E.).

Procedures for Public Comment: The Notice of the Division's intent to issue this renewal and modification discharge permit for the USAF Cedar Pass WWTF, subject to the conditions contained within the permit is being sent to the **Tonopah Times-Bonanza & Goldfield News** and **Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **Friday, December 5, 2008, by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to issue the proposed discharge permit for a period of five (5) years.

Prepared by: Mark A. Kaminski, P.E., Technical Services Branch
Staff Engineer III
Bureau of Water Pollution Control

Date: October 27, 2008